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CARCINOMA OF THE PANCREAS:^{*} An Analysis of the Clinical Data on 47 Proved Cases.

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I. Basis of Analysis

Carcinoma is the most frequently recognized clinical affection of the pancreas, and yet its occurrence is of such rarity that few physicians have had an extensive personal experience with the disease. For that reason I have thought it worthwhile to review the data on 47 cases admitted to the various services of this hospital within the past ten years, and to discuss the diagnosis and treatment on the basis of the data available in the literature. Though the analysis has led to no significant conclusions, it has served to emphasize certain clinical observations that often have been overlooked and that, if constantly kept in mind, may lead to earlier diagnosis and sometimes to a palliative operation before the patient has suffered unnecessarily; occasionally perhaps to radical removal of the disease process.

The cases fall into two groups: carcinoma of the body of the pancreas, 7 cases; and carcinoma of the head of the pancreas, 40 cases.

II. Results of Analysis

Males predominated in the ratio of two to one, and 80 per cent of the patients were over 50 years of age. In every instance the onset of the disease manifestations had been insidious, the first symptom appearing within three months of the patient's hospital admission in 72 per cent. In the occasional patient who had complained of digestive symptoms for one or more years, reasons appeared for suspecting that they had been due to some other lesion.

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(a) Body of the Pancreas

In the 7 cases that had involvement only of the body of the pancreas, epigastric pain was the chief and the earliest complaint. Weight loss had occurred in 3 of these. Anorexia, eructations, nausea, vomiting, weakness, nervousness and insomnia were mentioned less frequently.

A palpable mass was the principal physical sign in this group, having been noted in 4 instances. Swelling of the abdomen, not obviously due to hepatic enlargement, was next in importance. Hepatomegaly, tenderness and rigidity of the abdomen, however, were also sometimes observed. Only one of the patients was jaundiced, and his icterus was of the obstructive type, found at autopsy to be due to a huge metastatic lesion in the center of the liver.

Four of the patients presented a normal blood picture, while the others showed some degree of anemia. A gastric analysis was done in 5, and in each it was negative. Feces and blood sugar studies revealed nothing significant. Roentgen observations, while not diagnostic, showed some abnormality in 2 of the 4 cases examined: in 1, gastric displacement and in the other, gastric retention.

Three of the cases died postoperatively, while of the other 4, not operated upon, 2 died within two weeks and the other 2 within four months.

(b) Head of the Pancreas

The larger group (40 cases), with involvement of the head of the pancreas, had no early symptoms, but the cases were recognized by their physical signs, including jaundice, weight loss, vomiting, a mass or hepatic enlargement, or a combination of such signs. The jaundice always was of the obstructive type and was progressive, due to the gradual occlusion of the common duct by the pressure of the expanding head of the pancreas. In 62 per cent of the cases it was associated with

pain. Some degree of weight loss, varying from 5 to 75 pounds, was present in 60 per cent.

Nervousness and insomnia have been reported as important complaints, but they were present in only 25 per cent of this series. As in other reported groups, they were often associated with negative physical and laboratory studies, and this at times suggested that the patient was suffering from a neurosis. Epigastric pain, nausea and vomiting were frequent late symptoms. In a few instances the pain was relieved by food or alkalis; more often, by a change of position.

The presence of a palpable abdominal mass, presumably not hepatic, was demonstrated in 60 per cent of the cases. It was located in the upper right quadrant of the abdomen in 15 patients, in the mid-epigastrium in 5 and in the left epigastrium in 4. Hepatic enlargement, probably due to biliary obstruction or to metastasis, was demonstrable in 24 cases, 22 of which were jaundiced. Tenderness was present in 11 cases; it was mid-epigastric in 4 cases; right epigastric in 5; and left epigastric in 2.

The gastric acidity in 14 of 18 cases was normal, the others presenting an achlorhydria (all over 57 years). Although diminished gastric secretion has been described as occurring in extragastric malignancy, Necheles and his co-workers (1), on the basis of studies of the gastric secretion in 16 rabbits that had received injections of a highly malignant tumor of the testes, which metastasizes rapidly, and of certain clinical observations, concluded that a reduction in the acid gastric secretion of patients with extragastric malignancy has not been proved.

Routine blood studies were made in 35 cases, and they were normal in 54 per cent. The patients showing a severe degree of anemia (only 11 per cent) were in the late stages of the disease. Usually it was of the hypochromic type. A moderate leucocytosis was usually found, and in two-thirds of the cases the lymphocyte percentage was diminished. A reduction in the total number of lymphocytes may be significant in view of the claim by Waugh (2) that in obstructive jaun-

dice due to malignancy there is a fall in the lymphocytes below 2000 per cubic millimeter.

The van den Bergh test gave an immediate direct reaction in 31 cases. In 7 instances it was biphasic. The indirect quantitative reading for the serum bilirubin, in the 31 patients, varied from 1.5 to 42 units.

Six of the patients had an elevated blood sugar concentration. Two others had a diminished glucose tolerance curve. One patient died in coma with a high blood sugar (570 mg. per cent) that was refractory to insulin. Hypoglycemia was not observed in this series. Grauer (3) noted no clinical symptoms of hypoglycemia in a review of 34 cases of pancreatic carcinoma. Eusterman (4) listed one case in a series of 88.

Feces examination was made in 34 cases. In 20 the specimen was acholic; in 13 it contained a trace of bile; and in 1 an excess of fat was found.

Roentgenographic study of the gastro-intestinal tract after a barium meal was made in 24 cases, and was entirely negative in only one of these. While not as specific for lesions of the pancreas as for other affections of the digestive tract, it proved to be a valuable aid in suggesting the possibility of an abnormality in that organ. In addition to suspicious direct roentgen signs, evidence of a change in the physiology of the small intestine, such as a disturbed pattern or decreased motility, was observed in 10 patients, but this probably was secondary to peritoneal metastasis. In 7 cases gastric displacement was manifest, while in 11 the stomach was abnormally retentive. Duodenal abnormalities included displacement in 2 cases, obstruction in 4, widening of the loop in 6, the presence of an "inverted 3" sign in 4, and pressure on the loop without obstruction in 4.

All but 3 of the cases have been followed, and all of those have died, one-half within two months after being diagnosed. The longest duration of life after recognition of the disease was one year.

III. Discussion

(a) Diagnosis.

The early diagnosis of pancreatic malignancy is difficult because of the insidious onset of the symptoms and the absence or nature of the early physical signs. A history

of epigastric or back pain or of a slowly developing painless jaundice in an elderly person, especially a man, and particularly when associated with weight loss, should, however, suggest the possibility of that lesion and lead promptly to the employment of all the special tests designed for the confirmation or elimination of that diagnosis.

Roentgenoscopy, especially, has been helpful in the diagnosis of some cases, particularly those with involvement of the head of the pancreas. It may show a widening of the duodenal loop, with displacement of the stomach upward, of the second portion of the duodenum to the right, and of the third portion downward. As a result of pressure on the stomach or duodenum, gastric retention may be demonstrable. Case (5) points out that such a study may also show displacement of the stomach anteriorly. It is to be remembered, however, that obesity, a pancreatic cyst, or a retroperitoneal tumor may cause a similar displacement of the surrounding structures.

In addition, special roentgen techniques have been developed during recent years that may be of diagnostic aid. Engel and Lyscholtz (6) have found that after inflation of the stomach with air a lateral film may show an enlargement of the organ equal to a vertebral body. Frostberg (7) has described an "inverted 3" sign along the inner border of the second part of the duodenum in anteroposterior films, made after a barium meal, due to encroachment of the involved pancreatic head on the duodenal wall. This, however, may also be due to chronic pancreatitis. Ernst (8) has suggested that a simultaneous filling of the stomach, duodenum, and colon with a barium mixture sometimes shows characteristic displacements due to a pancreatic lesion. This method is particularly helpful in differentiating carcinoma of the transverse colon, a not infrequent erroneous diagnosis, according to Duff (9) and Ransom (10).

Daily determinations of the bilirubin concentration of the blood plasma also may be helpful in differentiating a common duct stone, since in the latter the curve tends to fluctuate, whereas in pancreatic malignancy it usually rises steadily due to the progres-

sively stenosing or compressing effect of neoplastic process. Similarly, the constant absence of bile from the feces is an aid in this differentiation, since in common duct stone it usually is present in traces from time to time. Duodenal drainage, too, according to Clute (11), may be helpful in the differentiation, showing blood but no bile in the drainage material in cases of carcinoma. If, however, bile is obtained, one may, in the stone case, find in addition cholesterol and calcium bilirubinate crystals; not in pancreatic malignancy.

In most instances, however, to make an early diagnosis one must resort to an exploratory operation, and, because of the seriousness of the disease and because if a stone is found it is removable, this should not be delayed in the questionable case. Elman (12) has pointed out, furthermore, that with the elimination of the danger of operation in jaundiced patients, resulting from the increasing use of bile salts and vitamin K, it should be performed more readily than in the past.

(b) Treatment.

Excision of the tumor, as described by Whipple (13), is the ideal therapeutic procedure and offers the only hope of cure. This can be undertaken, however, only when the diagnosis has been made early and before metastases have developed. Unfortunately few such cases have as yet come to operation. Even in some instances, when at operation no metastasis can be found, as in one of Brunschwig's (14) cases, death results quite promptly from their rapid subsequent development. They have been found, as a matter of fact, in 75 per cent of the cases selected for surgical interference. In spite of all this Whipple, following a review of the surgical results in 20 cases of his own and in more than 100 reported by others, states that a definite advance has been made in the surgical treatment of the pancreas within the past decade. On the basis of his recent studies, he has now modified his surgical technique, but the newer procedure will have to be employed in a large number of patients, with a five-year follow-up, before any definite conclusions as to its value can be drawn. In any

event, it may be said that a cholecystoduodenostomy frequently is successful in relieving jaundice, improving the patient's nutrition, and making more comfortable those in whom the radical operation is contra-indicated. This procedure in itself is further justification for an exploratory laparotomy in the questionable case.

Roentgen therapy is a useful adjunct to surgery in the treatment of pancreatic carcinoma. Lahey and MacKinnon (15) noted that the carcinoma of the pancreas patients who had received radiation therapy after any type of surgery lived an average of 16.8 months. This compares with 8.6 months in those not receiving this kind of therapy. Pack and his associates (16) also reported good results from radiation therapy, including marked palliation, improved appetite and gain in weight.

Medical treatment must be reserved for those patients in preparation for operation, for those whose situation is hopeless, for those who have already been operated on, and for those who have declined surgery. It consists largely in procedures for the relief of pain, in the regulation of the patient's routine of life, in the administration of bile salts and vitamin K for the prevention of hemorrhage, and of iron for anemia, and in such other measures as tend to make life a little more bearable.

I wish to thank Dr. E. L. Eliason, Dr. I. S. Ravdin, Dr. T. G. Miller and Dr. E. P. Pendergrass for their kindness in permitting me to study their records, and to Dr. Miller for his valuable suggestions in the preparation of this paper.

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DISCUSSION

DR. JOHN F. HYNES (Wilmington): I think we are quite fortunate in having this scholarly presentation of Dr. Rigney. He covered this question so very thoroughly that it does not leave very much room for discussion.

The biggest problem of course is that of the early diagnosis of pancreatic carcinoma. If it is diagnosed early surely some cases would be cured by radical surgical means. Unfortunately we do not see them early enough, and even in those cases under medical care the nature of their illness is not always recognized until the disease becomes quite advanced. Some of the pancreatic adenomas of the islands of Langerhans are recognized by the clinical features of the disease and come to surgery. Most of them are benign, and even if they go on for some time are still operable.

The radiation therapy of carcinoma of the head of the pancreas or any part of the pancreas is not very satisfactory. The pancreas is a deep-seated organ. It is not easy to aim the radiation at it accurately, and the surrounding tissue, the intestinal tract, is so easily damaged by irradiation that one does not get very striking results: palliation, relief of pain, perhaps some increase in life, yes, but no cures. The few apparent cures that are reported are those where a radical surgical procedure has been carried out, and some patients do survive that sort of operation.

The greatest cause for death following operation, apart from immediate shock, is an ascending infection of the biliary tree, and that apparently is partly avoided by dividing the jejunum, suturing the gall-bladder to the cut end of the tube and making the jejuno-jejunostomy lower down. There is then less

likelihood of the infected part of the contents going back into the gall-bladder.

DE. RIGNEY: I have very little to say in addition to what was brought out in the paper. I agree with Dr. Hynes that there is no cure for pancreatic carcinoma, as far as radiation therapy is concerned, but I think I made it clear in the paper that its purpose is palliative and that radical surgery offers the only possible hope of cure.

SOME ASPECTS OF EYE MUSCLE PROBLEMS*

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It is only in recent years that medical men have tended to have a proper appreciation of the importance of eye muscle problems. Part of this lack of appreciation has been due to inadequate courses in ophthalmology in medical schools. Even today there are many schools which are remiss in this important respect. Fortunately, because of greater interest on the part of physicians, fewer and fewer patients come to the eye specialist some years after the onset of crossed eyes saying that the family physician told him he would "grow out of it." As you all know, the only thing a child grows out of is his clothes.

The classifications given here are ones of convenience. There are two general types of squints, the paralytic and the non-paralytic. The former, which I will not discuss here, are due to such causes as syphilis, diabetes, or some intracranial background, i. e., the sixth nerve or lateral rectus paralysis in increased intracranial pressure. There is a temporariness VI nerve paralysis occurring more or less spontaneously in children and lasting six to eight weeks and which spontaneously disappears, which one occasionally sees.

The non-paralytic or so-called comitant group is the common "cross-eyed" type which is found in children. This group is characterized by the fact that the position of one eye in relation to the other remains constant in all directions of gaze—in the paralytic group the relation of the two eyes changes

when the affected eye is moved into the field of action of the paralyzed muscle.

Eso & Exotropia

This comitant group may be further divided into: (a) alternating fixation, (b) non-alternating fixation.

Alternating fixation, as the term implies, is the ability of the child to use one eye or the other when looking at an object. As a consequence, since both eyes are used on occasion the vision remains equal in each eye. Many of these patients do not have the ability to perceive depth or stereoscopic vision. Lack of depth perception is probably at the basis of many squints, as its presence is a strong stimulus to use the two eyes together. Depth perception is in part a mental phenomenon and not entirely a part of the visual structure, per se. It cannot be entirely developed—a person is either born with it or without it. It may, however, be present and not have been used, in which case it can be brought out.

Correction of the squint in these alternators, since the vision remains equal (and usually normal) is not quite as urgent as in the non-alternators, and correction can be deferred a little if one disregards the cosmetic aspect. The cosmetic importance of straight eyes should, however, never be underestimated, both in the earlier and later life of an individual. Unfortunately, some people with an uncorrected squint feel that it is not noticeable. This is due to the consideration of their friends. One advantage that the ophthalmologist has in talking to these people is that he usually knows which eye to look at.

The non-alternators, which comprise by far the largest group, are those children who always fix with one eye and ignore what is seen with the crossing eye entirely, just as one does when he looks into a microscope with both eyes open.

The consequence of only using one eye for direct vision by young children is that the vision in the unused eye becomes very poor, often 20/200 or less and is known as an amblyopia exanopsia. This group needs corrective measures at the earliest possible stage to prevent a permanent reduction of vision. I might say here that it is not enough to tell parents that they should have someone examine the child's eyes if they are crossed. It is

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the duty of the physician to emphasize to the parents that it is of paramount importance. Every eye specialist has patients with a permanent reduction of vision in one eye due to carelessness on the part of parents and physicians. Every eye specialist has seen patients lose this good eye, due to accident or disease, and be left incapable of self-support, even though the other eye appeared healthy, but was amblyopic. Such terrible tragedies are unfortunately all too common even today. We discharged a boy of 16 from the hospital last week—a pointed stick had been stuck through his good eye; the other eye, a squinting eye, has 20/200 vision and will have no more the rest of his life. Worth, in giving statistics in his book on squint shows that the possibility of giving a child good vision in a squinting eye varies from 93 per cent down to 5.7 per cent, depending on the duration of the condition. He also says, "It is nothing less than a tragedy that such figures are still needed to convince the general public, the general practitioner, and even ophthalmic surgeons that *if there is a squint the child pays with its sight for every day's delay*—whoever treats it. The child has a moral right to *instant* investigation and treatment."

I have mentioned the fact that incomplete stereopsis is probably at the bottom of many squints. Another cause is a vertical muscle imbalance. If there is a tendency for one eye to be slightly higher than the other it is believed that, in order to avoid an annoying diplopia, the eye is thrown well out of the line of vision, either in or out, and the image of one suppressed. Other possible causes of squints are more speculative, they are, however, not considered to be due to overdevelopment or weakness of a muscle or muscles, rather to undue nerve stimulus.

The age of onset varies. A squint may be present from the age of three or four months, or anytime later. The incidence is greatest at 2-6 years of age. It often shows up following a febrile illness. There is some tendency for it to be inherited. There was a cross-eyed mother in the clinic and six of her eleven children were cross-eyed. I am not sure whether she improved her average by persistence.

It is not my purpose here to go into many of the details of classification, diagnosis or treatment. From the non-specialist's point of view, I believe that the moving picture to follow will serve to illustrate a simple test to decide whether the eyes are straight or not.

Treatment consists in the utilization of one or more of the following four methods:

Glasses

Occlusion of good eye—to make them alternators. In young children results are rapid. Many methods—patch, rubber occluder or glasses, etc.

Exercises

Operation

In convergent squints of certain types, wearing glasses may correct the muscle imbalance entirely, by relieving accommodative (or focusing) effort, and along with it the convergent effort. Improvement in 1-2 months or not at all.

Where there is an amblyopia it is important to bring up the vision of this eye. This can often be done by covering the good eye in any one of several ways and making the child use the poor eye. However, very little, if any improvement can be obtained beyond the age of 8 or 9 years. The occlusion has to be continued for weeks or months.

Exercises are used in certain restricted types of squints, especially in what is known as the accommodative type. They are also often used pre-operatively and post-operatively, to insure the best results. Exercises cannot be given until the age of six or seven. It is the consensus of all large eye muscle clinics, such as Moorefields in London, the clinics in New York, Baltimore, etc., that no true case of squint, or one in which there is a constant squint, can be cured by exercises. Worth calls exercises "fiddling while Rome burns."

Most squints require operation. The time of operation varies, depending on the type of squint, amblyopia, presence of such complicating factors as false projection, age of patient, age when first seen, etc. Some cases can and should be operated upon under 2 years of age, some 3 or 4, some 6 or 7, or after some exercises have been given. But crossed eyes can be straightened at any age, as far as cos-

metic result is concerned. The object should be binocular vision. Types of operations are many, and each operator has his favorite type. Essentially, they consist in shortening one muscle by a resection, and lengthening the opposite muscle by recession. This latter is done by moving it further back on the globe or "recessing" it. The anesthesia: Some prefer general anesthesia in all cases; some prefer to use local anesthesia when the patient is old enough.

One fact that is always emphasized by the surgeon is that it is not always possible to bring an eye straight with one operation. Despite all factors that are taken into consideration and whatever the experience of the operator, there are often unpredictable variations that may result in either an under- or an over-correction.

Statistics—Incidence of squint in general population: Hanson in England found in 10,239 children of school age (5-14) 2.5 per cent had a strabismus, in 25,624 children in Glasgow at age of 5-6, 3 per cent had squint. Other figures show that the incidence decreases from 3.5 per cent in the lowest social stratum to 1.9 per cent in the highest.

Operative results—Many operators report from 50-70 per cent satisfactory results with one operation and a further 70 per cent improvement in the remaining 50-30 per cent, after a second operation. However, the eyes can be brought straight.

One important point about eye muscle operations: The patient, as well as his friends, are conscious of the operative result, and if this is not good the surgeon himself may be painfully conscious of it also. This is a detriment to hasty operating.

Mayfair Apartments.

DISCUSSION

DR. W. M. PIERSON (Wilmington): Dr. Cutler has just presented a very excellent illustrated talk on a subject that I am sure you are all interested in and should appreciate. It is of extreme importance, as he mentioned, to recognize the subject, but in addition to that to see that the patient is also attended by an eye surgeon or an ophthalmologist. There are many points that Dr. Cutler

mentioned that I would like to emphasize, both to those who heard Dr. Cutler and for those who happen to be absent.

It is true that some squints do adjust themselves after a length of time, but it is more responsibility than the general physician should take to adopt the practice of watchful waiting. As Dr. Cutler mentioned, a squint may be corrected by operation at any age, but correction by whatsoever means indicated is necessary as soon as possible after the squint is recognized. The function of the eye is to see, and to develop that ability the eye must be used.

As you all know, with two eyes one sees two objects which are fused by the brain into one. A squinting eye places the images in the brain so far apart that fusion is impossible, resulting in diplopia or double vision. To overcome this symptom the image of the squinting eye is suppressed, and if suppressed sufficiently long becomes amblyopic.

My experiences with exercises in relation to the subject under consideration, convergent squint, have been almost 100 per cent failure. I have found the chief benefit from exercises in the opposite kind of condition, where the converging power is weak and we have the opposite condition.

As ophthalmologists we are often asked by patients and even by physicians, "How do you tell if a baby or a child under five or six needs glasses, when the child cannot read?" The exact refractive error of anyone at any age may be accurately determined by retinoscopy in the darkroom. The reason for taking the patient to the trial case and going through the procedure of finding out which is better or worse is to check on the findings in the darkroom and to attempt to give the patient the best and the most distinct vision. However, the clearest and the most distinct vision is not the important part in squint.

In this connection we wish to determine if the patient is sufficiently hyperopic or farsighted to account for the squint, and if so, the procedure is to give a full correction, by means of glasses, of the refractive error as found by retinoscopy in the darkroom. So it is not necessary to have the child go to the chart and try to read. The decision as to the proper treatment of squint may be made only

after a thorough study by the ophthalmologist. As Dr. Cutler mentioned, the personal equation enters into the subject so much that the treatment for one individual may be entirely different from that of the other, with exactly the same degree of squint. Because of this personal equation, squint may not be corrected with one operation; and this does not mean that the surgeon has used faulty judgment or guessed wrong. The surgeon must have the cooperation and confidence of the doctor in attendance as well as the patient. The object is to follow through, regardless of whether one operation or two or three may be necessary to obtain two straight eyes.

I am sure that Dr. Cutler has made you squint-conscious, has shown you how to recognize a squint, and instructed you to see that the patient sees an ophthalmologist, and that you know now why it must be corrected early, and that correction must be in the proper hands.

DR. W. O. LAMOTTE (Wilmington): Dr. Cutler has made his talk very clear, and he has given us as much perhaps as a non-ophthalmologist can digest in one afternoon. I would just like to emphasize the importance of recognizing the squint early so that it can be properly examined and treated, no matter at what age. The experience of many of our leading ophthalmologists has been that if these cases are taken early enough and treated properly with the right cooperation of the family, from 50 to 75 per cent can be cured without operation. That has been my experience over a good many years.

I think Dr. Cutler has brought to the attention of the general profession a very important subject, and he has covered that in his general disclosure, so there is no use of my repeating anything he has said.

DR. A. J. STRIKOL (Wilmington): I have very little to say except that I agree with Dr. LaMotte. I think this bears out the fact that orthoptic training is doing a lot of good, and that some report 50 per cent, 75 or even 100 per cent cures. Of course the length of treatment varies. If you give it once a week or so; some require about four or five a week for months, eight months, ten months, and the results are remarkable in some cases. That is always worth trying. Of course the sur-

geon always puts surgery first; just as in general medicine you must remove the cause, but certain cases can be cured without operation.

For strabismus cases they have established clinics throughout the country, not only in one city, but throughout the whole country, and the results are remarkable. So it isn't only surgery that is the cure for that. Surgery is good. In the Wills Eye Hospital, where they have hundreds of cases, they report 75 per cent cured without an operation.

DR. R. R. TYBOUT (Wilmington): I just wish to say that Dr. Cutler and Dr. Pierson have covered their subject so thoroughly that there is very little left for me to say. I thoroughly agree with what Dr. Strikol has had to say. However, I would like to refer to one aspect of squint. I think this point has a bearing on the question, though it is not, strictly speaking, applicable to squint in young people. I refer to the squint which occurs suddenly in adults, due to toxins and to intracranial pressure. These squints, of course, are incurable unless the cause has been removed, such as the removal of a brain tumor or the eradication of the source of toxins.

DR. G. O. POOLE (Wilmington): I want to say that I enjoyed Dr. Cutler's paper very much, and I agree with most of what he has said.

DR. I. W. MAYERBERG (Dover): I cannot add much to what has already been said. I enjoyed Dr. Cutler's talk and also enjoyed the pictures, especially that poor little sickly smile the patient gives at the end of the operation.

But I do wish to say this: that the study of the muscles of the eye is a deep subject within itself. It isn't only squints that we can see, but the muscle imbalance that in some instances is nearly imperceptible when a refractionist gets hold of them. I think that every refractionist should know his muscles in order to give his patient comfortable vision.

DR. C. E. WAGNER (Wilmington): Mr. President, from a pediatric standpoint I see a great many people who have squint, and I have made a practice of referring them to ophthalmologists who know much more about the condition than I do. I was pleased to hear them state this afternoon that it is advisable

to refer these patients just as soon as the condition is recognized. Many times parents are rather negligent about that, and it is rather difficult to persuade them to go to see an ophthalmologist. Certainly I have been pleased to hear everyone emphasize the fact that they ought to be referred as soon as the condition is recognized.

A good many infants will have weak muscles, will have a slight squint, and possibly by the time they are three months of age the condition will be corrected. But I have always felt much better about referring these babies to ophthalmologists as soon as I do recognize the condition, if I can possibly persuade the parents to take them. I would like to have Dr. Cutler emphasize that point a little bit more, whether we are correct in referring these babies as soon as they come to us and as soon as we recognize that they do have a squint.

DR. CUTLER: I appreciate the remarks of the men who have discussed this paper, and I think, as you probably gather, there is some difference of opinion, and difference of opinion is a good thing. I think, as Dr. Mayerberg said, it is quite a subject in itself, and I think that a muscle case requires more care, produces more gray hairs, probably, than lots of other cases that seem to be probably more serious and more acute. You cannot take a muscle case, treat it in any way you think would be best, and when you find that you get a proper reading dismiss the patient. The patient is going to need observation, certainly well up into the teens.

As Dr. Wagner said, he is certainly one amongst many doctors who do send these patients at the earliest possible moment, and I don't think that can be overemphasized. It surprises me sometimes, and it is really somewhat appalling to see how nonchalantly patients will look upon a slight crossing of the eye. They speak of it as a slight case. They do not realize that the child may have vision in only one eye for the rest of his life and may lack stereoscopic vision, which bars it from all sorts of activities and occupations.

The examples that come to an eye specialist are very many, and I find it hard sometimes to stop myself from being a little emphatic with the patients who have been so off-

hand and careless in regard to a child's vision. If they had some penetrating injury, some open wound which was going to cause that eye to have no more than 20/200 vision they would come in with all sorts of palpitations, would not be able to sleep, and so on. But if the eye is crossed and the vision is poor it doesn't seem to be so important. Naturally, then, it devolves upon the men who see these patients, and particularly upon the pediatricians. I feel that there is no city in the country which has a better group of pediatricians than Wilmington, and they certainly refer these patients at an early age.

There is one aspect of this moving picture which I think I would like to emphasize, and that is that if you can do a cover test on a child—and so many of them you can—and if you do not get any movement when you uncover one eye and then the other, then those eyes are straight. If there is any question about it you should also of course do it at 20-foot distance, which we do. Many children have a nose with a very flat bridge, and in addition to that they have a peculiar shape, oftentimes, to the upper lid, which gives the lids a slight Mongoloid appearance, and gives what we call an epicanthal fold.

In those children the inner side of the lid does not have a normal angle because of the flat bridge. I might just sketch this on the blackboard for a minute, and ask your indulgence, because I did not show it in the moving picture. A normal adult eye has that appearance. There is a little pink fleshy spot in the corner here. Children have that appearance, in which very little if any of this fleshy part is shown until you take hold of the skin on the side of the nose and pull it forward a bit, which the development of the bridge of the nose does itself invariably. When that lid moves up you see this inner angle, and you also see more of the white of the eye from the inside.

Children with this epicanthal fold or somewhat Mongoloid appearance often give the appearance of the eyes not being straight, because when a child looks to this side, the left, since that lid covers down a part of the inner angle and there is less of the white showing, the cornea quickly slides behind that and you see less of it, and it gives you the appearance

of that eye turning in. So in that type of case be sure that you are looking directly in front of the child and, if you can, do a cover test; failing that, see if the light reflections are in the center of the pupil.

It is surprising to find that you can usually get enough cooperation from a child at any age to determine that, and if there is any doubt in your mind you should have someone else see the child with you.

Thank you very much.

TRANSFUSION VIA THE BONE MARROW A Case Report

GEORGE J. BOINES, M. D.
Wilmington, Del.

The patient was a white girl, aged 9 years. A tonsillectomy was performed on August 26, 1941, and the child went home on August 27th, apparently in good condition and not bleeding.

On August 30, 1941, about 10:00 P. M., the child began to vomit large amounts of organized clots and blood. The mother states that during that day the child had not eaten anything because of pain in the throat. On readmission to the hospital, it was found that post-nasally there were a large number of clots and some bleeding. The clots were removed and it was noted that the bleeding came from the retro-pharyngeal space. The bleeding was apparently stopped by packing. During the night the child began to bleed again, and again vomited a considerable number of clots. The retro-pharyngeal space was again packed and the bleeding stopped. About 2:30 A. M. the condition became worse from hemorrhages, the child became cold, clammy, and very pale. The pulse was 170, weak and thready; respiration 48. Stimulation was given and an attempt was made to give glucose intravenously, using one of the veins of the ankle. The veins of both arms were collapsed and it was not possible to distend them by the usual means.

When it was found difficult to enter any of the veins, typed blood (from the father) was given through the sternum, using a special sternal puncture needle. The needle was inserted in the midline of the sternum just above the second intercostal space and a slight

amount of fluid was aspirated. Blood was then given through the needle. 300 c.c. of citrated blood was infused, followed by 200 c.c. of normal salt solution through the same needle. The transfusion was started at 5:45 A. M. and ended at 8:37 A. M. At 9:00 A. M. the temperature was 102° F.; pulse 116; respiration 26. After the transfusion the child was much better and gradually recovered. She was discharged on September 3, 1941, in very good condition.

It is our opinion that giving blood through the sternum was a life-saving procedure in this case, since blood and fluids were immediately necessary and were unable to be given through the vein. The technique used was that described by Tocantine and O'Neill, at the A. M. A. meeting, 1941.

American College of Surgeons

Because of the war, the thirty-second annual Clinical Congress of the American College of Surgeons will be held in Chicago October 19 to 23, instead of in Los Angeles as originally planned. Headquarters will be at the Stevens Hotel. The twenty-fifth annual Hospital Standardization Conference sponsored by the College will be held simultaneously. The programs of both meetings will be based chiefly on wartime activities as they affect surgeons and hospital personnel in military and civilian service.

Complacency would be stupid while tuberculosis is still causing more deaths in this country than any other communicable disease except pneumonia, and while there are less than a hundred thousand sanatorium beds to care for half a million people with recognizable clinical infection. Geddes Smith—"Plague on Us" pub. by Commonwealth Fund, 1941.

The final eradication of tuberculosis is dependent on the eradication of the foci from which it is spread, and the family of the patient with tuberculosis must be carefully studied. J. G. Bohorfoush, M. D., and Pauline Michael, Amer. Rev. of Tuber., Oct., 1940.

Editorial

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OUR PART IN OUR WAR

Everything is changed. Overnight war was made upon us—and we mean us, for it was made as much upon physicians in the Rocky Mountain states as upon our colleagues in Hawaii or the Philippines. Yes, everything is changed, but in a way everything seems now more settled—all except those individual decisions as to how best each person and each group can most effectively contribute to a truly "all out" effort.

Now that a few days have passed to give us perspective, this is how we see our part:

The Journal. Medical journals are primarily educational. Their job of keeping physicians informed concerning the best in scientific medicine must continue, with emphasis upon the medical and surgical care of military and civilian casualties in modern war. Secondly, medical journals are media for exchange and dissemination of organization

information. The work of journals in this field must be broader than it has been to date, again with emphasis upon organization work in the military and defense efforts. This Journal will do its best in both these fields. But here, as everywhere in a war effort, waste and frills must be eliminated. We will edit more vigorously, sometimes condense ruthlessly. Every dollar counts. Before this war is won, every page of paper and every pound of printer's ink may count. Again, we will do our best.

The State Medical Society. We see the functions of state medical societies not greatly changed since December 7, but we see a need for rapid readjustment of emphasis. Their annual sessions, their clinical meetings and refresher courses, their several publications—all are educational. These should be continued in the same manner suggested for Journals, with their programs paying more attention to epidemic control, casualty control and relief, and mental hygiene. The organization work of state societies needs some immediate readjustment. It must now emphasize repaid communication with county and district units as never before. If a state society does not already have a full-time central office, it needs one as a nerve center capable of receiving, routing, and communicating important information without a moment's delay. State societies should coordinate their work at once with State Defense Councils, State Home Guard officials, and the Red Cross. It is a thousand-to-one chance, but remember that the possibility does exist that even Salt Lake City or Denver or the Union Pacific's main line through Wyoming could be bombed. Sabotage might cause local disaster almost anywhere. Let's harbor no hysteria, but let's all be ready for any contingency, anywhere.

Also, state medical societies must be ready to help in supplying personnel to the military services. As this is written, the Procurement and Assignment Service for Physicians, created by President Roosevelt some months ago at the request of the American Medical Association, is calling upon state medical societies for intensive work. This work includes

an immediate review and revision of the earlier survey on availability of physicians for military and defense services, originally made several months ago through state and county society officers. A new list of those physicians who are willing to leave their homes on call at any time will be compiled from questionnaires like that appearing on page 48 of this issue.

In most instances, cities can easily spare physicians for military service and in most instances rural districts cannot. State medical society officers will have to know their states by heart, their geography, their industrial distribution, their general population distribution, their medical needs by districts, by counties, by towns. The societies must be able to answer detailed questions about the availability of their members for military, industrial, and civilian service, and to do so on a moment's notice or on no notice at all.

The County Society. Each county or district medical society should conduct in its smaller field the same work done in a larger way by the state society. In our region, only the Denver and Salt Lake City societies are large enough and therefore financially able to maintain central offices with salaried personnel. Others are staffed entirely by volunteer officers. Secretaries especially, but other county society officers as well should immediately arrange that urgent mail, telegrams, and telephone calls can be authoritatively handled without delay at any time when these men are not in their own offices. County officers should know all there is to know about their counties, and about the immediately adjoining areas—distribution of membership and hospital bed capacities, industries and the medical care available to these industries, population densities and the adequacy of medical personnel to serve them, and correlating information.

County medical societies and their officers are on the front line of civilian morale. A community without a physician can maintain neither sound health or sound morale. The county society should assume the responsibility of seeing to it that all communities in its district are really served with medical care. Dr. A. in a rural community may itch to be a flight surgeon for the Army, but his

joining now would rob his community of its only physician and months would elapse before someone could replace him. Dr. B. of the small city may itch to join the Navy's medical corps, but his leaving would rob his city of its only specialist in eye, ear, nose and throat, for instance. It will take courage for medical society officers to dissuade these men from an activity which springs from pure, if hasty, patriotism. But they must be told to calm down and to weigh what is best for the community, the state, and the nation in the long run—it's probably going to be a long run.

Like state societies, county societies should coordinate with other local organizations at once. Liaison should be established with the local Red Cross first aid and disaster relief groups, with the local unit of the State Defense Council, with any local military post and every local defense industry. Here again, waste must stop, frills be discarded now. Duplication of effort is waste. Liaison and co-ordination will stop duplication. Move rapidly, but with plenty of thought, and care. It may be trite to say that haste makes waste, but it still does.

The Individual Doctor. Every physician is now asking: "What should I do, myself?" As we see it, he should first sit down to think. He should weigh all the factors, such as those already pointed out in this editorial, plus others stemming from his personal situation. He should review the latest information from the American Medical Association, from his state medical society, and from announcements by the military services and the Selective Service. Then he should consult with the officers of his county medical society, who may have even later information than that in A. M. A. or state society publications, and who should know more than he does about the local community factors.

Should he join the military forces? Not if by so doing he would rob an isolated community of needed medical service, at least not until he has arranged for someone to replace him, someone not likely to go into military service. Remember that raising potatoes, herding sheep, keeping highways open, mining coal and metals—these too, are essential cogs in the defense machinery, and the people

who do these jobs must have medical care. This is why the consultation with county society officers is essential.

If he practices in a city and is personally able to enter military service, he probably should offer himself as soon as possible by means of the enrollment form in this issue, after consultation with medical society officers. Others in his city, perhaps in the same specialty, might simultaneously plan the same move, and if all went at once the community and its defense industries might find their medical services temporarily crippled. Physicians in essential teaching capacities, unless they can be immediately replaced with other competent teachers, are more important in those capacities than in a military hospital. The constant education of young physicians is another essential part of the war effort.

In all probability, Denver and Salt Lake City can spare a fourth of their physicians to the military services if the selection is carefully made. This may be necessary. Those who remain must then work harder than before to make sure that city populations are not neglected. Smaller cities cannot spare such a large proportion. Small towns can spare perhaps only one physician from each seven or eight. The "two-doctor town" and the "one-doctor town" simply cannot give up their medical practitioners. Very soon, probably within the month of January, the national Procurement and Assignment Service for Physicians will be able to tell us how many are immediately needed by the military forces. In the meantime let's move carefully, rapidly, but without haste.

What can the physician do who knows that he is unfit for any kind of military service? There are many, many things. Like every other good citizen, he can lend money to his government to the limit of his ability, in defense bonds. He can report to his local defense council and local Red Cross, where perhaps he can help train first aid and other emergency personnel. He is already helping in Selective Service medical examinations, and he may have to increase this work. By all means he can and should keep his county medical society officers informed of his every defense undertaking, again to avoid duplicated effort.

Here is another thing most individual physicians can do. It may sound like a radical departure from custom. To some extent it is, but it will not offend the Principles of Ethics. He can study his own list of private patients, and, taking first those whose jobs he knows are important to defense, arrange to examine them, bring himself and his patients up to date on their current physical condition, and correct minor defects and ailments—now. The smaller industrial firms cannot maintain full-time or even part-time industrial physicians. Agriculture does not have them. So each private practitioner not otherwise fully occupied can elect himself a part-time industrial physician for his community for the duration. Each will know what to do, after a study of his own clientele. Consider one week's avoidable sick leave from even a small job that is important to our defense effort; consider one week's avoidable illness of the farm hand; yes, consider one week's avoidable illness of any citizen. Add these up for the whole country and it makes literally years of precious working time lost and possibly delays final victory.

We are all familiar with the slogan "Keep 'em flying!" For our profession let's now expand it: Keep 'em fighting! Keep 'em building! Keep 'em harvesting! Keep 'em well!—Editorial, *Rocky Mtn. Med. Jour.*, January, 1942.

NO MATTER WHAT THE COST

Our President, in his report to Congress on the state of the nation, emphatically declared that we must win this war "no matter what the cost." This is the type of leadership which Americans understand and will support.

The Surgeon of the Sixth Corps Area Headquarters in Chicago sent the following message to the Medical Preparedness Committee of the Michigan State Medical Society, December 18, 1941: "****by July 1, 1942, the Army and Navy will need a total of 18,800 medical officers****."

Every citizen of the United States will have to pay and sacrifice to win this war. Each will mourn a friend or a loved one. The administration and the representatives of the people will sooner or later have to nullify

political friendships and enmities. The affluent man will have to give up his luxuries; luxuries which he may feel are necessities. The man with high principles must subvert some of his ideals. The farmer must relinquish some of his "independence" and the industrial worker, some of his "rights."

To the physician the phrase, "no matter what the cost," has an ironic significance. Scarcely a day goes by without a father or mother saying, "Doctor, do everything you can for my child. I don't care what it costs." In most instances, when the case is finished and the bill computed, the reaction of the guardian is, "I didn't think it would cost *that* much." Many practitioners have learned that it is better to tell the petitioner from the outset what the cost may be.

The physician must also pay the price.

We agree with our President, "no matter what the cost." Perhaps a brief review of the probable disruption of our age-old professional existence would not be remiss. Thousands must take their places in the armed forces; thus in many communities the burden of providing civilian medical care will become a real task. The attending physician will be hard pressed to maintain a high degree of medical care when the multiplicity of calls for aid seems unending. Specialists and retired physicians may be called upon to furnish general medical care for the civilian population. Cooperation on the part of the patient will be necessary in eliminating unnecessary visits and waste of time. Vacations and social activities will be at a minimum even though cherished years of life may be lessened. More and more demands upon physicians' charity will be made—and met. Favorite drugs and instruments may be impossible to obtain and new methods and forms of therapy graciously accepted. Civilian Defense will utilize additional time. Work previously performed by internes and residents in the hospitals will be part of the attending physician's task.

Because of their training in leadership the doctors of medicine will have to assume more

of the community burdens, which will be magnified rather than lessened.

These are only a few of the sacrifices, but perhaps it does bring home what the cost will be.

But we must win this war "no matter what the cost."—Editorial, *J. Mich. S. M. S.*, February, 1942.

MISCELLANEOUS

Combined Immunization

Physicians who are concerned with the immunization of infants and children have as their goal the use of materials which will not sensitize the patient, and the utilization of routes of administration that cause least discomfort. Definite assistance toward these objectives is provided by use of combined antigens in the opinion of a recent observer (*J. Florida M. A.*, 28:330, 1942). The author has employed Combined Diphtheria Toxoid-Tetanus Toxoid, Alum Precipitated (Lilly) for the last three years without any untoward reactions.

The combination of diphtheria and tetanus toxoids is effected by mixing suitable amounts of the respective toxins which have been detoxified by the use of formaldehyde, and precipitating from this combination with alum the diphtheria and tetanus toxoids. The individual toxoids are tested for toxicity prior to mixing, and the combined alum precipitated toxoid is tested for toxicity after precipitation. Potency is determined by injecting guinea pigs with a human dose. After four weeks the blood serums of these animals must show at least 2 units of diphtheria antitoxin and 2 units of tetanus antitoxin per cubic centimeter of blood serum.

Should exposure to either diphtheria or tetanus occur before immunization against each disease is completed, the usual procedures for immediate protection of unimmunized subjects should be considered. The combined toxoid is not for treatment; it is a prophylactic measure of active immunization against diphtheria and tetanus.

War Time Food Supply

What foods the family of four should keep on hand during war time has been officially announced by Federal Security Administrator Paul V. McNutt, Director of Defense, Health and Welfare Services.

The December 30 issue of "Victory," official weekly bulletin of the agencies in the Office for Emergency Management, gives the list of necessary foods with exact amounts needed for 1 person for 1 day and the quantities to keep on hand of each food for a family of four for 4 days. Heading the list is evaporated milk, of which 16 cans should be kept in stock by the family, or enough for a can per day for each person for four days.

The table of foods was prepared by the Nutrition Division of the Federal Security Agency to answer the many inquiries coming in daily as to what they consider the necessary food allowances. "A 4-day supply of a few food essentials is all any family needs to keep in stock during war time."

Hoarding is unnecessary, it was emphasized, since ample supplies of foods are on hand now for consumers and will continue to be available.

Here is the table of foods:

	Food for 1 person (for 1 day)	Food for a family of 4 (for 4 days)
Milk, evaporated	1 can	16 cans
Cheese	1/4 jar	4 jars (5 oz.)
Dried beans or peas	2 ounces dried	1/2 lb. dried
	or	or
Peanut butter	1/2 can baked	4 cans baked
	1 ounce	1 pound
	or	
Vegetables, canned (beans, peas, corn, sauerkraut)	2 tablespoons	8 cans (No. 2 1/2)
Tomatoes, canned	1/2 can (No. 2 1/2)	(2 of each)
		4 cans (No. 2 1/2)
Fruit, canned (apple- sauce, peaches, berries)	1/4 can (No. 2 1/2)	or 6 cans to- mato juice
Grapefruit juice	1/4 can (No. 2)	4 cans (No. 2)
Dried fruit	1/8 lb. package	1 pound prunes or apricots
		1/2 lb. raisins
Meat or fish, canned (corned beef, salmon, luncheon meat)	1/4 pound	4-5 pounds
Cereal:		
Prepared	1 cup	2 packages
To be cooked	1/2 cup	1 pound
Crackers:	16-20 crackers	4 packages or
		or 4 lbs.
Wholewheat crackers		2 packages
Soda crackers		2 packages
Chocolate bars	1 bar	16 bars (1 1/2- 2 1/2 oz.)
Cocoa or chocolate syrup	2 tablespoons	1 pound can
		8 ounces
Sugar	2 tablespoons	1 lb. package
Jam	2 tablespoons	1 lb. jar
Coffee	2 tablespoons	1 small can (1/2 lb.)
Tea	2 teaspoons	1/4 lb. package

(Stock only foods that will keep. Put bulk foods in glass jars. Protect cartons against moisture.)

Production of evaporated milk during 1941 was increased 30% to meet the needs of the

emergency. More than 74 million cases, or 3 1/2 billion cans, of evaporated milk were produced as compared with 57 million cases in 1940. Of this amount 17 million cases were furnished under the lend-lease program to England, Russia, China and countries in the Near East. More than 3 million cases were supplied to the armed forces of the United States. Production is still expanding rapidly to meet the greater demands expected during 1942 for the full war program. The evaporated milk industry is prepared to meet these needs. Domestic trade channels are adequately supplied now and will continue to be, so as fully to take care of consumers purchases and thus effect the fullest cooperation with the government's program for civilian defense through better nutrition.

Nurses Needed

Faced with a shortage of registered nurses throughout the country, because so many professional nurses are being called for active duty by the Army, Navy and the U. S. Public Health Service, the Nursing Council on National Defense is seeking 50,000 young women to enter schools of nursing during 1942. Few professions offer women such opportunities for patriotic service, satisfaction in one's work, and economic security.

The nursing services of the American Red Cross and the U. S. Public Health Service, as well as the American Nurses' Association and other national organizations in this field, are represented in the Nursing Council on National Defense. One of the most important objectives of this war-time agency is its effort to encourage well-qualified students to enter the 1300 approved schools of nursing this year. A high school diploma is a minimum requirement of these schools, but a year or more of college education is considered valuable additional training; and at least two schools of nursing (Yale and Western Reserve) require college degrees for entrance.

A campaign of public education is being undertaken by the Nursing Council's Committee on Recruitment of Student Nurses, headed by Miss Katharine Faville, director of the famous Henry Street Visiting Nurse Service of New York City. Recruitment of stu-

dent nurses, Miss Faville points out, is entirely distinct from the American Red Cross plan for the training of volunteer nurses' aides for work in hospitals.

"Our call is directed to those young women between the ages of 18 and 35 who are qualified to enter schools of nursing and take at least the basic three-year course in preparation for professional nursing," Miss Faville said. "Thus they will be fitted to fill the places of graduate nurses who are now being assigned to the nursing corps of the Army, Navy and other government services. Student nurses can begin to relieve the nursing shortage to some extent almost as soon as they enter training."

There will be many opportunities for nurses after the war as well as during the present emergency, according to Miss Faville. Women who combine a college education with training as nurses have been in great demand for many years; and there will be an increased need for such nurses during the post-war reconstruction period, as well as an expanded need for teachers, supervisors, and executives in schools of nursing, hospital nursing services and in public health nursing agencies.

Young women who wish further details on this subject should write to the Nursing Information Bureau, 1790 Broadway, New York City.

Preventing Postoperative Complications

One of the dread postoperative complications is embolus. Patients who have done perfectly well, will suddenly, upon getting out of bed, develop a fatal postoperative embolus. This has led many surgeons to favor instituting activity as soon as possible.

Leithauser and Bergo¹ used early rising and ambulatory activity after operation as a means of preventing complications in 383 appendectomies consecutively performed. On the first postoperative day the patient was assisted to the sitting position on the edge of the bed and then he was made to stand beside the bed for deep breathing exercises. He was made to walk about the room and made to sit in the chair for a few moments before returning to bed. In each position he was instructed to inhale deeply and cough. The average

period of postoperative confinement to bed was from one to one and a half days. The mean hospital stay was 2 3/10 days.

Upon leaving the hospital the patients were ambulatory and returned for observation on the sixth day. Those engaged in light work were permitted to return to their offices on the eighth day and those doing manual labor on the fourteenth day. The authors have been impressed by the freedom from complication and the rapid recovery following this type of management.—Editorial, *N. Y. St. J. M.*, November 1, 1941.

¹ Leithauser, D. J., and Bergo, H. L.: *Arch. Surg.* 42: 1086 (June) 1941.

Delaware Academy of Medicine

The annual meeting of the Academy was held on January 19, 1942. The reports of the officers and committees showed a substantial growth of the work of the Academy and of its Library. The following were elected:

BOARD OF DIRECTORS—Mr. H. G. Haskell, 4 years; Mrs. Ernest du Pont, 4 years; Mr. F. H. Gawthrop, 3 years (for Mr. W. P. Allen, deceased).

Officers—W. H. Kraemer, M. D., President; E. R. Miller, M. D., 1st Vice-President; J. D. Brown, D. D. S., 2nd Vice-President; D. T. Davidson, Sr., M. D., Secretary; N. L. Cutler, M. D., Treasurer.

Library Committee—F. M. Hoopes, D. D. S., 5 years.

Scientific Committee—D. J. Casey, D. D. S., 5 years.

Admission Committee—W. W. Lattomus, M. D., 5 years.

House Committee (appointed)—C. H. Davis, M. D., 1 year (chairman); G. W. K. Forrest, M. D., 2 years; L. B. Flinn, M. D., 3 years.

Executive Committee—Irvine Flinn, M. D., 1 year; John Maroney, M. D., 1 year.

Holdover officers and committee members are:

BOARD OF DIRECTORS—Mr. S. D. Townsend, 1 year; L. B. Flinn, M. D., 1 year; C. M. A. Stine, Ph. D., 2 years; Mr. J. K. Garrigues, 2 years; Mr. W. S. Carpenter, Jr., 3 years.

Executive Committee—W. H. Kraemer, M. D., President; E. R. Miller, M. D., 1st Vice-President; G. W. K. Forrest, M. D., 2nd

Vice-President; D. T. Davidson, Sr., M. D., Secretary; N. L. Cutler, M. D., Treasurer; W. O. LaMotte, M. D., Rep. Medical Society of Delaware; J. C. Pierson, M. D., Rep. Homeopathic Society of Delaware; C. F. Pierce, D. D. S., Rep. Dental Society of Delaware.

Library Committee—R. O. Y. Warren, M. D., chairman, 1 year; G. H. Gehrmann, M. D., 2 years; F. A. Hemsath, M. D., 3 years; J. S. Keyser, M. D., 4 years.

Scientific Committee—J. M. Messick, M. D., chairman, 1 year; C. Levy, M. D., 2 years; E. G. Laird, Jr., M. D., 3 years; G. A. Beatty, M. D., 4 years.

Admission Committee—E. R. Mayerberg, M. D., chairman, 1 year; C. L. Munson, M. D., 2 years; O. N. Stern, M. D., 3 years; J. N. Beebe, M. D., 4 years.

After the business session refreshments were served. The attendance was quite large.

Caution

Pharmacists, as a whole, are very circumspect regarding sales of poisons. Recently something came to the ear of the writer which may have been only a rumor. We prefer to believe that the incident related was an actual happening. The story goes that a sentry shot and killed a man detected climbing the ladder on a water storage tank at one of our army camps. He was identified as an enemy alien and several pounds of arsenic were found upon the carcass. His intent was obvious. The fiends upon whom we war stop at nothing, so it behooves us, as pharmacists, to be doubly cautious regarding requests for poisons in even small quantities. If for any reason or for no reason at all the would-be buyer looks off-color you should immediately call the state or local police. Let them ask him who he is and for what purpose he intends to use the poison. If he is 100% American he will appreciate rather than resent the questioning and if he happens to be a rat—he's caught. Mark down now the police call number.

Bull. Del. Phar. Soc., Dec., 1941.

Salvage Collapsible Metal Tubes

America needs tin! Developments of the last few weeks have seriously curtailed the available supply of tin. There is, however, one immediate source of tin right here in

America, already mined and ready for the smelter. That source consists of upwards of two million dollars worth of tin in the hands of American consumers in the form of *used collapsible tubes*. Tooth paste, shaving cream and other drug store products in tubes make up 85% of all the tin used by the collapsible tube industry. The collection of these tubes is imperative.

The Packaging Institute of America and the Collapsible Tube Manufacturers' Association, with the approval of the Office of Production Management, of the United States Government, have organized the Tin Salvage Institute to collect these tubes from the American public. The drive centers around retail drug stores of this country.

Bull. Del. Pharm. Soc., Dec., 1941.

BOOK REVIEW

The March of Medicine. Pp. 154. Cloth. Price, \$2.00. New York: Columbia University Press, 1941.

These essays originated as lectures to the laity at the New York Academy of Medicine. Their purpose is twofold, first to show historically how medicine has developed, and second to reveal its social and cultural significance.

The lectures in this 1941 edition of "The March of Medicine" range the whole history of the subject. At one end are discussions of the relation of humanism to science, and of philosophy as therapy. And, looking toward the future, are papers on cancer and the endocrine glands.

This work presupposes neither special knowledge of medicine nor familiarity with scientific vocabularies. The lectures are: Foreword, Malcolm Goodridge, M. D.; Introduction, Haven Emerson, M. D.; Humanism and Science, Alan Gregg, M. D.; Paracelsus in the Light of Four Hundred Years, Henry E. Sigerist, M. D.; Psychiatry and the Normal Life, William Healy, M. D.; Philosophy as Therapy, Irwin Edman, Ph. D.; The Promise of Endocrinology, Oscar Riddle, Ph. D.; What We Do Know About Cancer, Francis Carter Wood, M. D. The charm of these lectures is that they are free of the tedium of systematic treatises and full of the humor and definition of direct and personal converse. This little volume will afford an evening of unalloyed pleasure.

1789—MEDICAL SOCIETY OF DELAWARE—1942

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